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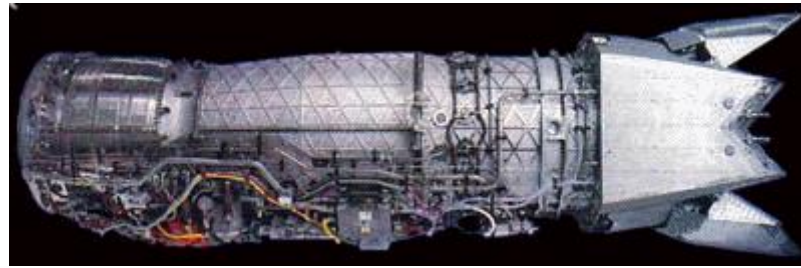
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Mechanical and Aerospace Engineering



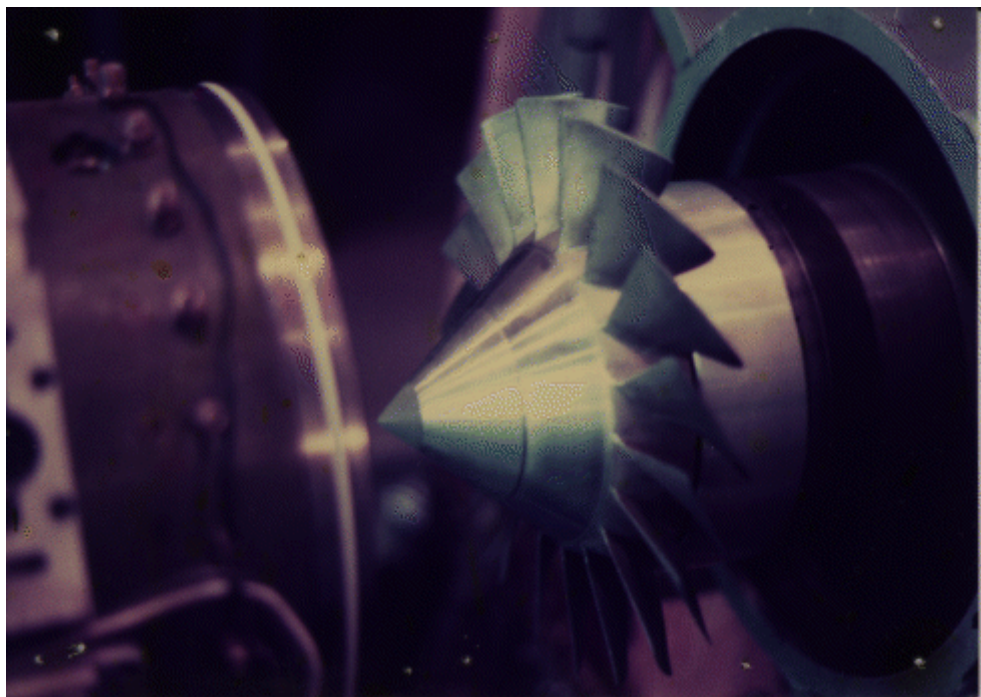
Turbopropulsion Laboratory and Gas Dynamics Laboratory

The Turbopropulsion Laboratory (TPL) and Gas Dynamics Laboratory (GDL) possess a unique set of facilities which are used in teaching and research related to air-breathing propulsion, space propulsion and turbomachinery. The research activities are supported by the U.S. Navy, NASA and industry.

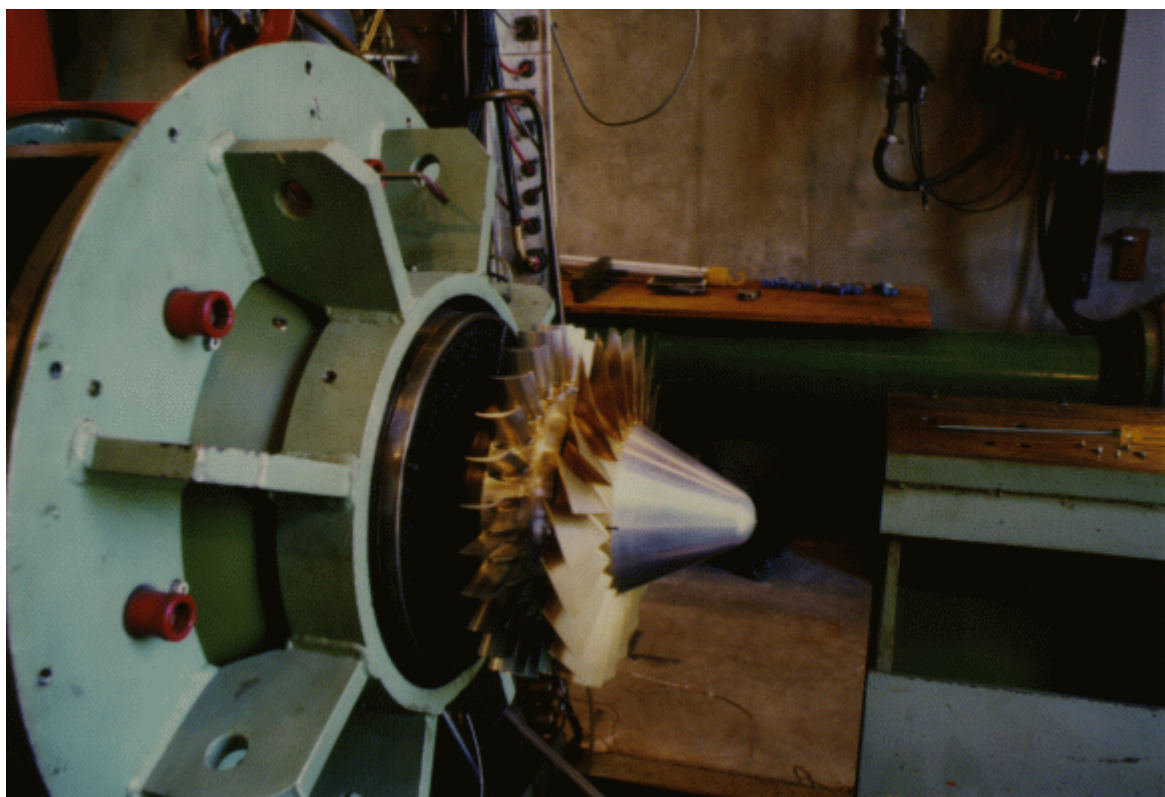
Facilities

High Speed Turbomachinery Laboratory

TCR



Vavra Transonic Fan



Sanger Transonic Stage (No acrylic casing)

Projects

[High Cycle Fatigue and Spin Pit Testing](#)

[Advanced Fan and Compressor Development Studies](#)

[Turbine Tip Leakage Measurements](#)

[High Speed UAV and Missile Propulsion](#)

[Potential Thesis Topics](#)

Collaborative Research Areas

[Center for Additive Manufacturing](#)

Faculty

[Anthony J Gannon](#) (Director)

[Garth V Hobson](#)

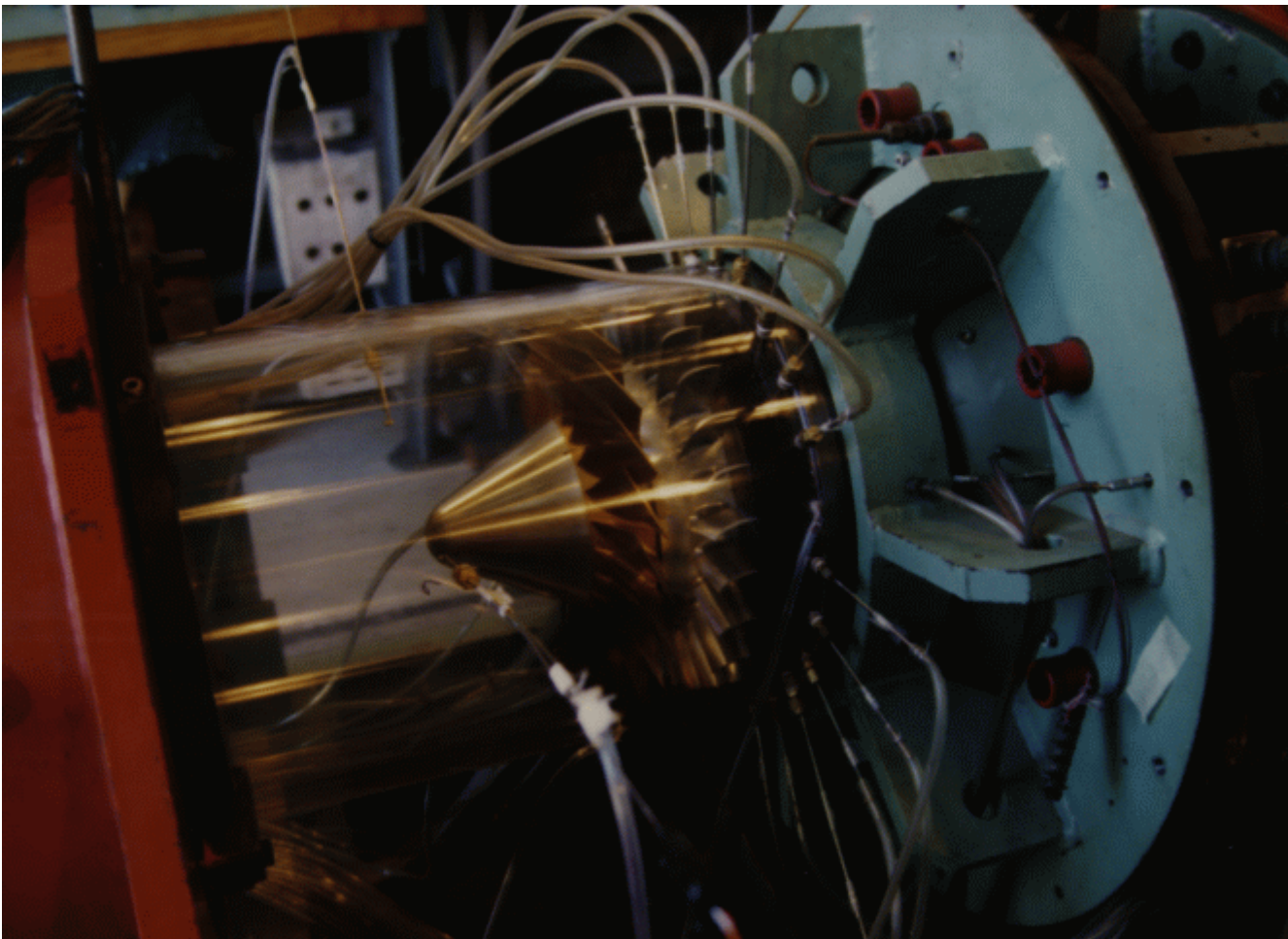
[Walter C Smith](#)

Publications

[Click to see List](#)

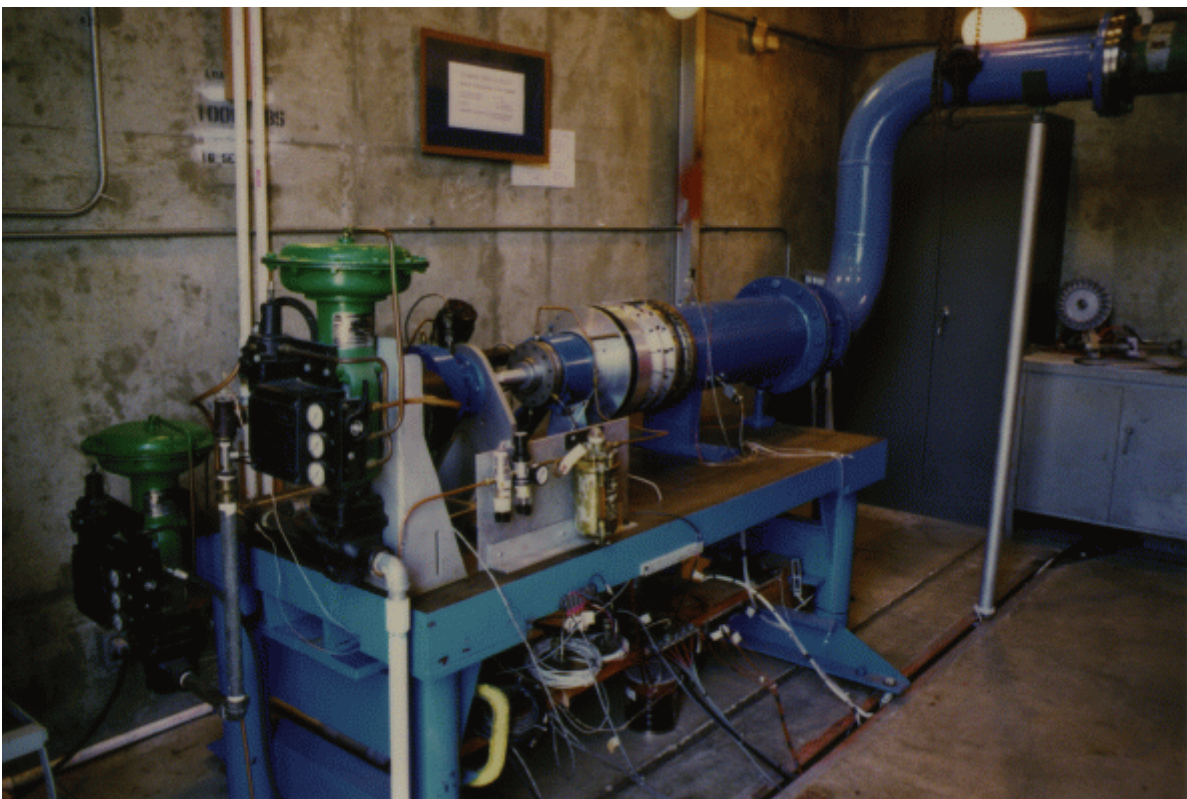
Researchers

Technical Staff



Sanger Transonic Stage (Acrylic casing)

TTR



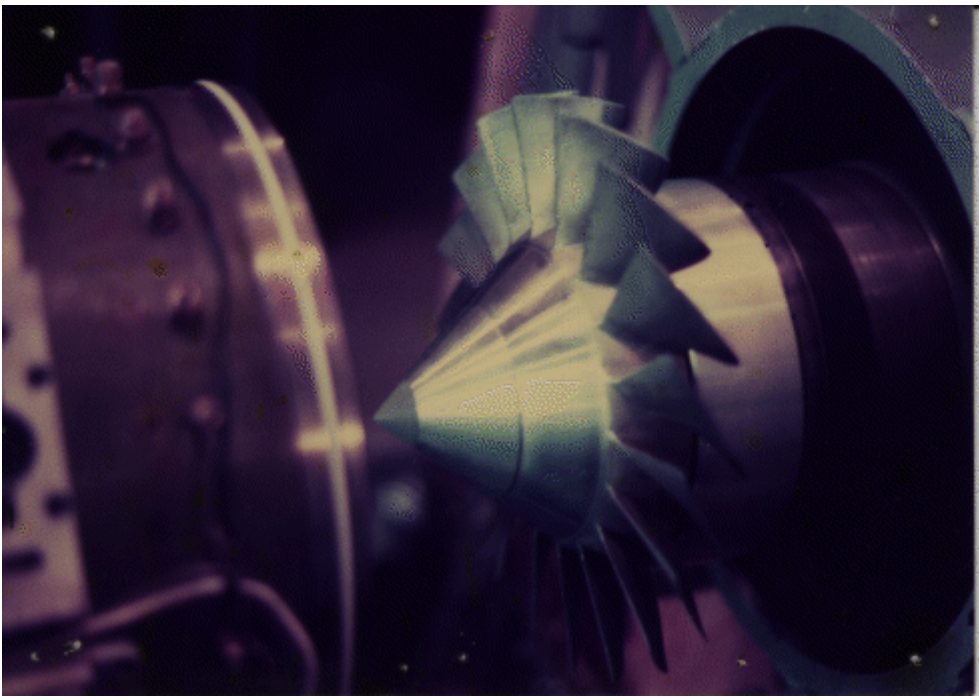
Space Shuttle Main Engine (SSME) - High Pressure Fuel Turbopump (HPFTP) Turbine

Spin Pit

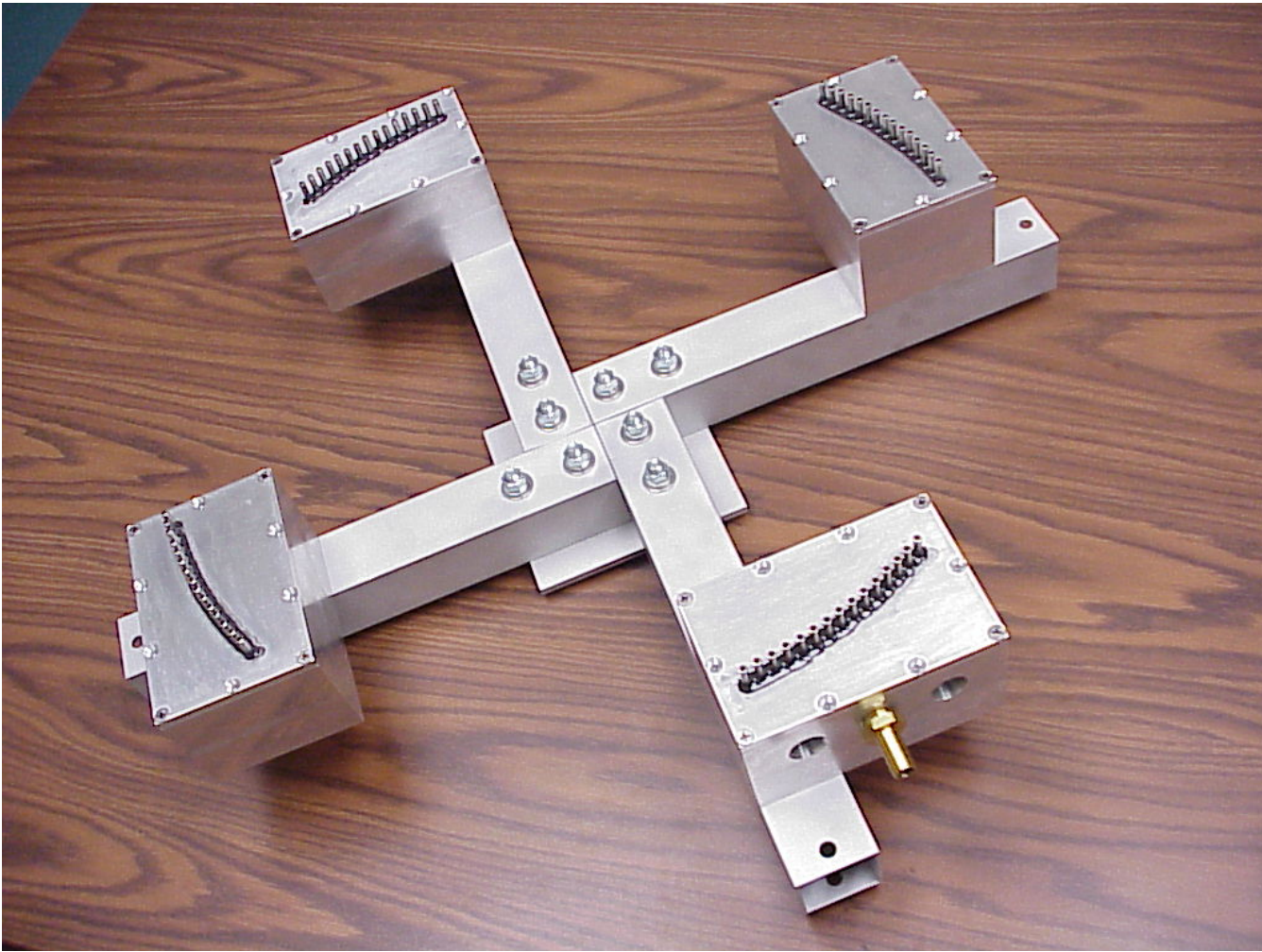


M1 Rocket Turbopump Rotor

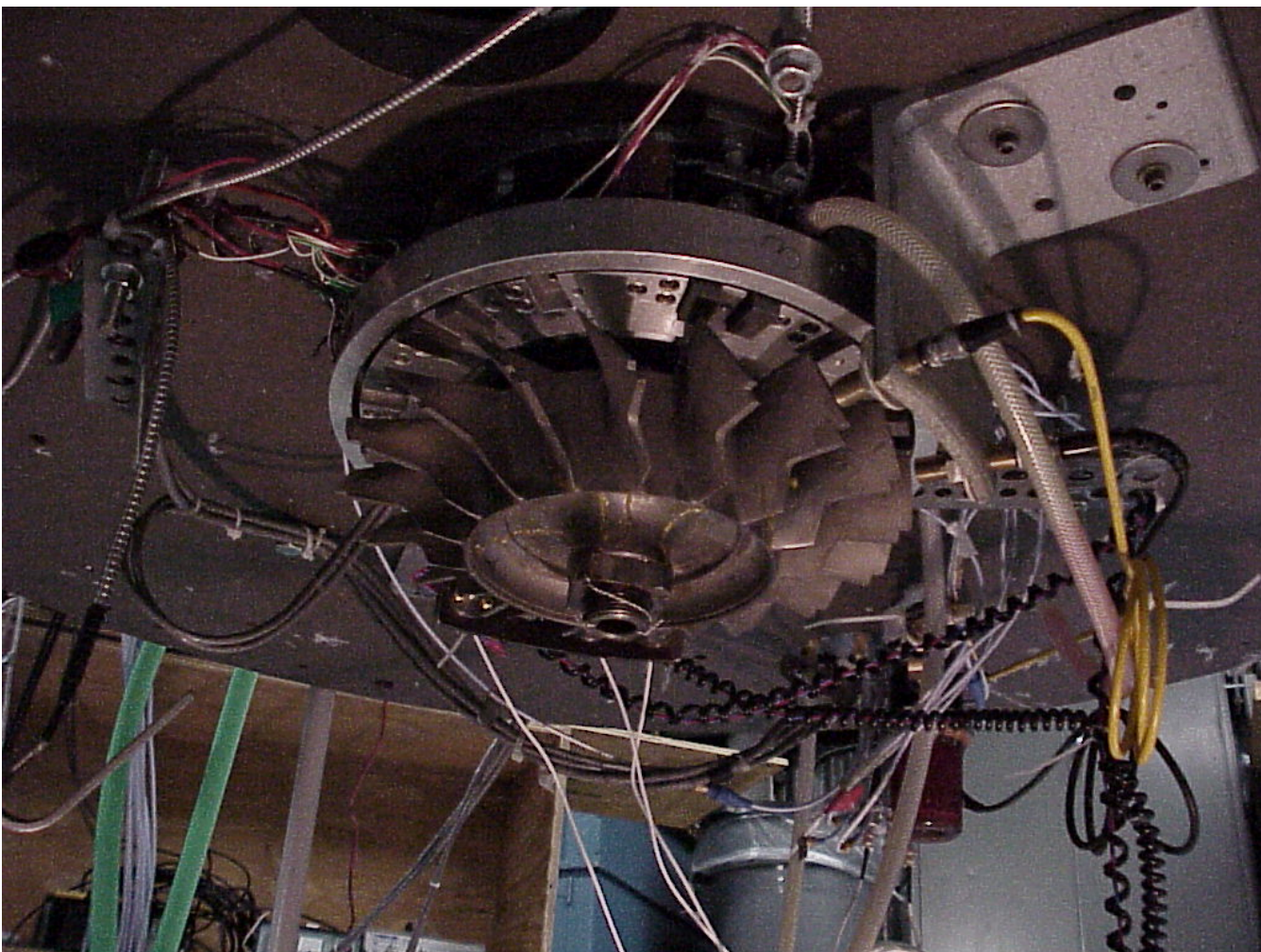
[Link To Graduated Students & Theses](#)



Vavra Transonic Fan Rotor



Air-Jet Excitation Rig for P & W Turbine Rotor

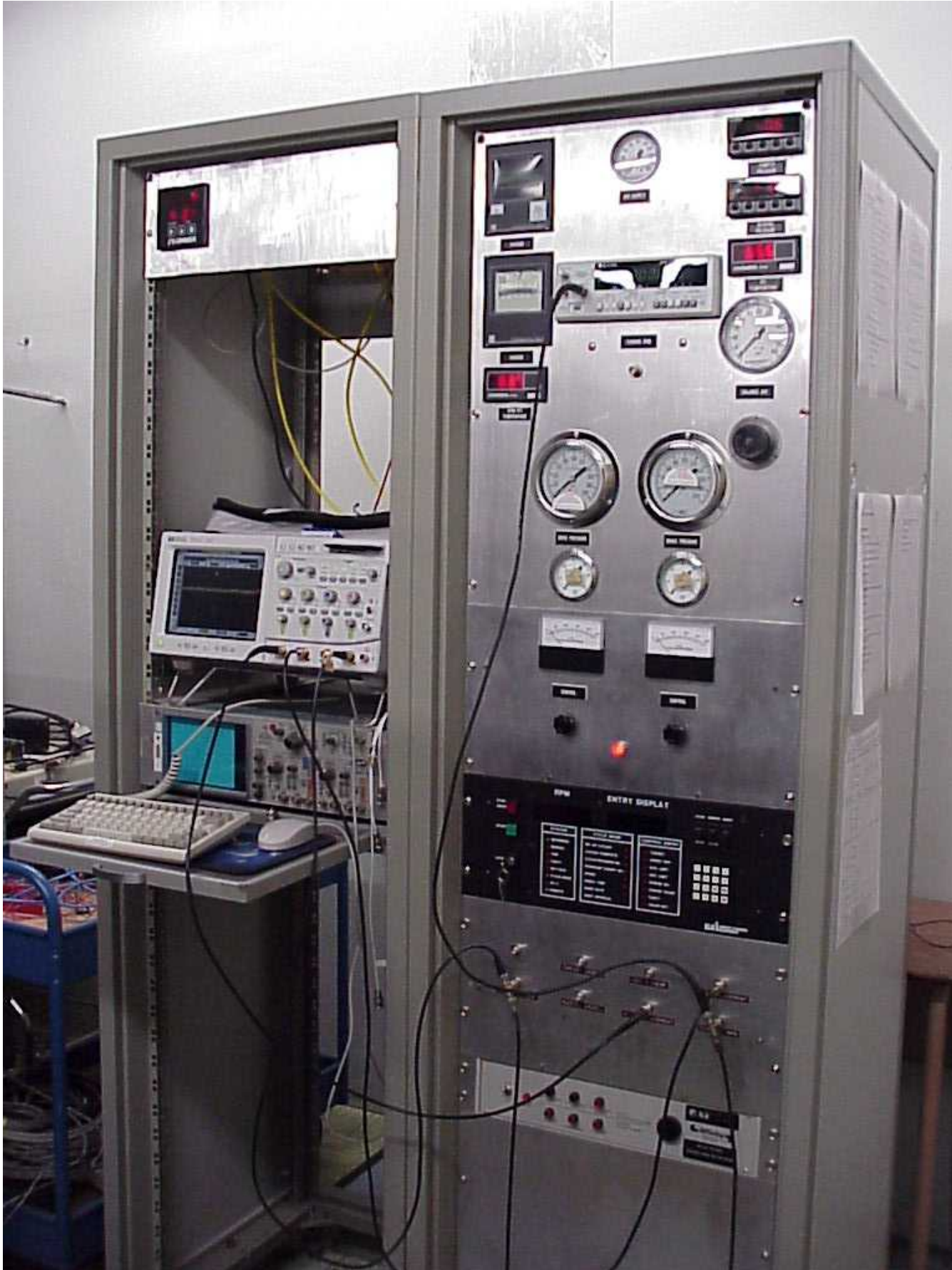


Hood Technology Titanium Rotor & Magnetic and Oil-Jet Excitation Rig

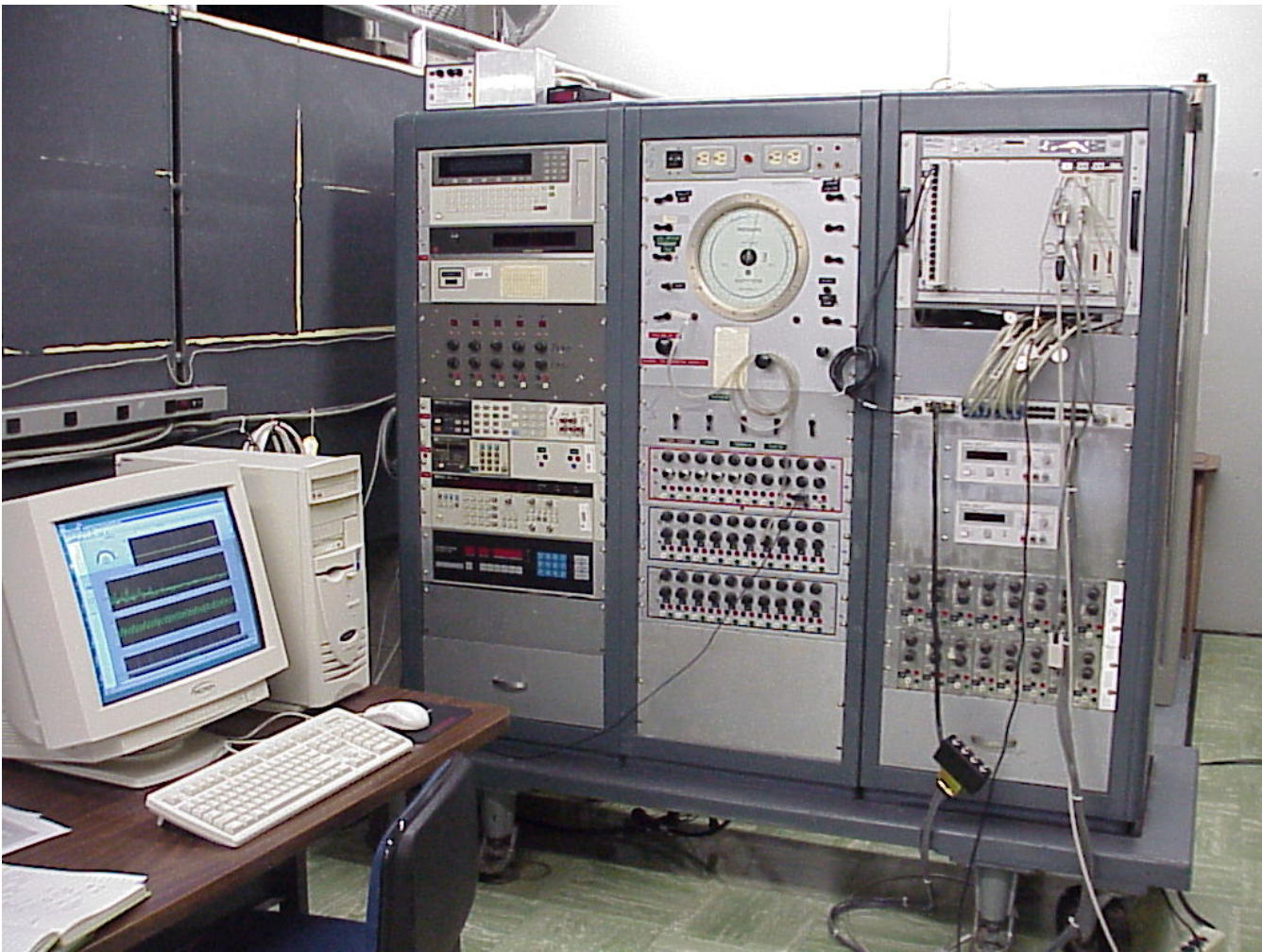
F119 Fan Rotor



Drive Turbine and Slip-Ring Unit

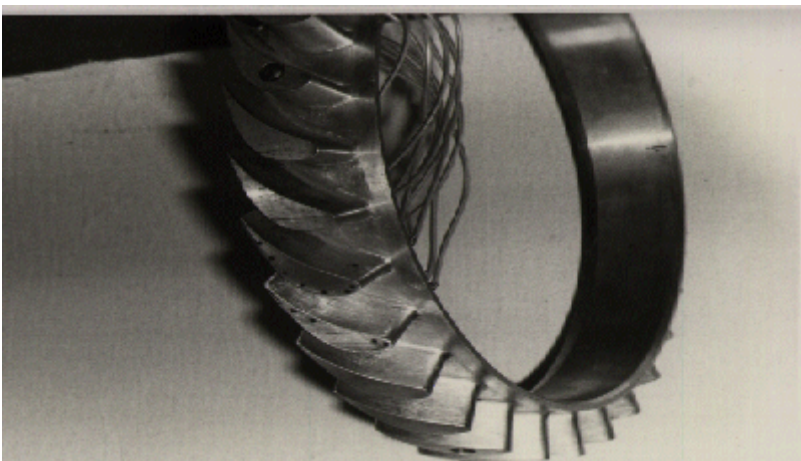


Control Panel with Automatic Speed Control Unit



Strain-Gage High Speed Data Acquisition Systems

Free Jet & Turbocharger Rigs



Annular Turbine Cascade

Low Speed Turbomachinery Laboratory



Low Speed Cascade Wind Tunnel

LDV measurements

Low Speed Multi-Stage Compressor

Light Probe NSMS

Gas Dynamics Laboratory

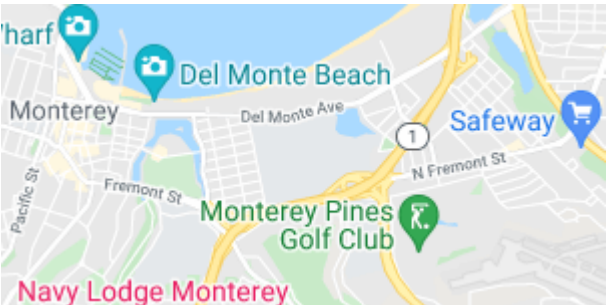
Free Jet and Engine Test Stand

Remotely Controlled J450 Engine

Shrouded J450

Supersonic Blowdown Wind Tunnel (Mach 4)

Pressure Sensitive Paint Measurements



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